

REMARKS

Claims 1-15 and 17-20 are pending in this application. Claim 16 has been canceled. Claims 19 and 20 have been added to more particularly define what Applicant regard as their invention. Claims 1 and 11 are independent.

Art Rejections

Claims 1, 2 and 5-10 are rejected under 35 U.S.C. §103(a) as being unpatentable over Bailey, et al. (USP 4,924,087). Claims 3 and 4 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Bailey in view of Norton (USP 4,139,306). These rejections, insofar as they pertain to the presently pending claims, are respectfully traversed.

Bailey is directed to an optical fiber buffer defect detection system that uses optical diffraction techniques to find defects in the optical fiber buffer. Specifically, and as shown in Figure 1, two laser beams 20, 22 impinge on optical fiber 11 and are scattered by any surface defects in the optical fiber buffer. As discussed in column 2, lines 26-30, defects in the fiber coating will cause changes in the laser diffraction pattern.

Specifically, Bailey detects an in-plane diffraction pattern 28 and an out-of-plane diffraction pattern 40 are generated if any surface defects exist on the fiber buffer. The in-plane diffraction

pattern contains information about the fiber diameter, concentricity and coating thickness while the out-of-plane scattering information includes information about discontinuities in the medium such as cracks and bubbles in the coating. This is discussed in column 2, lines 33-37 and column 3, lines 10-40 of Bailey. A detector 50 detects the diffraction patterns.

As further shown in Figure 1 of Bailey, a dish 14 having apertures 16, 18 is utilized to capture the diffraction patterns.

While it is true that Bailey discloses an optional camera 270 it is also clear that this camera 270 does not disclose or suggest the camera system claimed by the present invention. As discussed above, Bailey clearly utilizes a diffraction pattern to detect defects in the optical fiber buffer. The detector utilized is detector 50, which detects this diffraction pattern.

The optional camera 270 of Bailey is not utilized to detect defects from an **image of a fiber** but, instead, to record an image of the scattering (diffraction pattern). In any event, neither the detector 50 nor the camera 270 takes an image of the optical fiber. Instead, the detector 50 and the camera 270 are clearly disclosed as detecting the diffraction pattern, which is a very distinctive concept and does not disclose or suggest imaging the optical fiber itself. Furthermore, claim 1 details the camera system as imaging an entire surface of the optical fiber. This is simply not the case

in Bailey. Not only does Bailey not image any part of the fiber (instead images the diffraction pattern of laser light reflected from the optical fiber) but Bailey is incapable of imaging the entire surface of the optical fiber.

Furthermore, Norton fails to remedy any of the noted deficiencies in Bailey. While it is true that Norton discloses the possibility of four cameras that may be positioned to view the entire exterior surface of a high voltage electrical cable, Norton is simply not combinable with Bailey.

As extensively discussed above, Bailey clearly utilizes diffraction optics to detect the diffraction pattern 28 and does not image the optical fiber, let alone the entire surface of the optical fiber. While Bailey discusses the possibility of multiple laser beams 20, 22 (Fig. 1) or even three laser beams as shown in Figure 4, all of these laser beams are used to generate diffraction patterns that is detected to discover defects. Such a system of Bailey also requires a dish 14 in order to detect the out-of-plane diffraction pattern (see column 3, lines 30-40). Such a dish 14 and a restrictive apertures (16, 18) to which the laser beams 20, 22 are fired toward the fiber 11 is a structure and principle of operation that does not admit multiple cameras to image an optical fiber.

Furthermore, the Norton television inspection system is clearly applied to high voltage electrical cables and not to an optical fiber. Such an optical fiber inspection system as in the present invention presents entirely different challenges than high voltage electrical cable inspection systems as in Norton. This provides further evidence that the teachings of Bailey and Norton cannot be combined as Office Action suggests.

The Office Action further states that the method claims 11-18 are rejected for the same reasons as set forth in claims 1-10. Such a statement fails to appreciate the features of the method claims. This is particularly true because the method claims recite a different set of features than those recited in the system claims 1-10.

Still further, Applicant asserts that independent method claim 11, particularly as amended, is not taught or suggested by any of the art of record. Neither Bailey nor Norton disclose or suggests the step of calculating a stability index. No such stability index or its equivalent is anywhere discussed in the art of record. Furthermore, this calculated stability index is based on a thickness of the recoat of the fiber, a depth of any surface cracks on the recoat, any depth of any bubbles in the recoat. Such a relation is simply absent from any of the art of record. Indeed, the Office Action completely fails to address this feature.

For at least these reasons, the rewriting of claim 11 to include a calculating feature and a moving of the determining feature to claim 20 are amendments that are not being made to address any statutory rejection. In other words, the statutory rejections fail to address these features. The claim amendments are intended to recharacterize the invention in terms more reflective of the Applicant's invention. As such, these amendments are not for the purpose of distinguishing in the invention but to recharacterize the invention in a more accurate and perhaps even broader manner.

For all of the above reasons, taken alone or in combination, Applicant respectfully request reconsideration and withdrawal of the art rejections.

Conclusion

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Michael R. Cammarata (Reg. No. 39,491) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any

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overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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